CLAIMS

1. An information recording apparatus comprising:

a recording device capable of recording information into a data area of an information recording medium, by irradiating laser light, in conformity with a predetermined error correction method;

an optimum-recording-power detecting device for obtaining an optimum recording power of the laser light, by recording test writing data into a data area portion with a length which is equal to or less than an allowable defect length in the predetermined error correction method, within the data area, by using said recording device; and

a controlling device for controlling said recording device to record the information into the data area with the obtained optimum recording power.

2. The information recording apparatus according to claim 1, wherein said optimum-recording-power detecting device uses a near portion of a position into which the information is actually recorded, as the data area portion.

3. The information recording apparatus according to claim 1, wherein said optimum-recording-power detecting device uses a portion with a length which is shorter than the allowable defect length by a margin set in advance, as the data area portion.

4. The information recording apparatus according to claim 1, wherein said optimum-recording-power detecting device uses a portion other than a

portion where a synchronization signal is recorded in the data area, as the data area portion.

5. The information recording apparatus according to claim 1, wherein said optimum-recording-power detecting device uses a portion with a length within a tolerance of a tracking servo error in tracking servo when the information is recorded or reproduced, as the data area portion.

6. The information recording apparatus according to claim 1, wherein said optimum-recording-power detecting device uses a portion with a length which is equal to or less than the allowable defect length, by each error correction unit in the predetermined error correction method, as the data area portion.

7. The information recording apparatus according to claim 1, wherein said optimum-recording-power detecting device distributes the data area portion into a plurality of error correction units in the predetermined error correction method, in a form of a divided portion with a length which is equal to or less than the allowable defect length, if the test writing data is longer than the allowable defect length.

8. The information recording apparatus according to claim 1, wherein

said information recording medium has an exclusive test writing area to write therein the test writing data, apart from the data area, and

said optimum-recording-power detecting device firstly obtains the optimum recording power, by recording the test writing data into the

exclusive test writing area by using the recording device before recording the test writing data into the data area portion, and records the test writing data into the data area portion after the exclusive test writing area is filled up with the test writing data.

9. An information recording method on an information recording apparatus comprising a recording device capable of recording information into a data area of an information recording medium, by irradiating laser light, in conformity with a predetermined error correction method,

said information recording method comprising:

an optimum-recording-power detecting process of obtaining an optimum recording power of the laser light, by recording test writing data into a data area portion with a length which is equal to or less than an allowable defect length in the predetermined error correction method, within the data area, by using said recording device; and

a controlling process of controlling said recording device to record the information into the data area with the obtained optimum recording power.

10. An information recording / reproducing apparatus comprising:

said information recording apparatus according to claim 1; and

a reproducing device for reproducing the information from said information recording medium.

11. An information recording / reproducing method comprising:

said information recording method according to claim 9; and

a reproducing process of reproducing the information from said

information recording medium.

12. A computer program of instructions for recording control and for tangibly embodying a program of instructions executable by a computer provided in said information recording apparatus according to claim 1, said computer program making the computer function as at least one portion of said recording device, said optimum-recording-power detecting device, and said controlling device.

13. A computer program of instructions for recording / reproduction control and for tangibly embodying a program of instructions executable by a computer provided in said information recording / reproducing apparatus according to claim 10, said computer program making the computer function as at least one portion of said information recording apparatus and said reproducing device.